

CLAIMS

1. An organic EL drive circuit in which drive currents for driving organic EL elements or a current, on which the drive currents are generated, are generated by converting digital display data into analog signal, sending the drive currents to the organic EL elements through terminal pins of the organic EL elements in a display period according to a first timing control signal for sectioning the display period corresponding to a scan period for one horizontal line from a reset period corresponding to a retrace period of the one horizontal line and resetting the terminal voltages of the OEL elements in the reset period, comprising:

switch circuits for connecting the terminal pins to a predetermined potential line according to a reset pulse;

a correction data generator circuit for generating correction data for correcting a light emitting period of the organic EL element according to display data for gamma correction of luminance of the organic EL element; and

a reset pulse generator circuit for generating the reset pulse having pulse width corresponding to the gamma correction according to the first timing control signal and the correction data.

2. The organic EL drive circuit as claimed in claim 1, wherein the correction data generator circuit is a data conversion circuit for converting the display data into the correction data.

3. The organic EL drive circuit as claimed in claim 2, wherein the reset pulse is generated as a signal delayed from a timing reference, which is a leading edge or a trailing edge of

the first timing control signal, by a predetermined amount corresponding to the correction data.

4. The organic EL drive circuit as claimed in claim 2, further comprising a counter for counting the number of clocks corresponding to the correction data, wherein the predetermined delay is generated correspondingly to an output of the counter.

5. The organic EL drive circuit as claimed in claim 4, wherein the organic EL panel is of the passive matrix type, the terminal pins are a plurality of column pins and the first timing control signal is a reset control signal.

6. The organic EL drive circuit as claimed in claim 5, wherein the switch circuit is constructed with a transistor, a plurality of the switch circuits are provided correspondingly to the column pins, one ends of the switch circuits are connected to the column pins and the other ends of the switch circuits are connected to a potential line set to a predetermined constant voltage.

7. The organic EL drive circuit as claimed in claim 6, wherein the predetermined potential line is provided as a connection line to a constant voltage circuit having current mirror current sources for generating the drive currents correspondingly to the column pins, the transistors are MOS transistors, ones of the sources and drains of the MOS transistors are connected to outputs of the current sources and the others are connected to the constant voltage circuit.

8. The organic EL drive circuit as claimed in claim 2, wherein the switch circuit, the correction data generator circuit and the reset pulse generator circuit are provided for each of three primary colors R, G and B and the data conversion

circuit is constructed with a ROM.

9. The organic EL drive circuit as claimed in claim 2, wherein the first timing control signal sets the display period to the shortest display period with gamma correction or shorter to sections between the display period and the reset period.

10. The organic EL drive circuit as claimed in claim 9, wherein the reset pulse generator circuit includes a delay circuit for generating a plurality of second timing control signals sequentially delayed by predetermined time in response to the first timing control signal and a selection circuit for selecting one of the plurality of the second timing control signals in response to the plurality of the second timing control signals, the first timing control signal and the correction data to generate the reset pulse having a leading edge corresponding to the leading edge of the selected second timing control signal and a trailing edge corresponding to the first timing control signal.

11. The organic EL drive circuit as claimed in claim 6 or 10, further comprising current sources for generating the drive currents and D/A converter circuits provided correspondingly to the terminal pins, wherein the D/A converter circuit converts the display data into an analog signal correspondingly to a reference current or a current generated on the basis of the reference current and drives the current source according to the analog signal.

12. An organic EL display device comprising an organic EL drive circuit claimed in any of claims 1 to 11 and the organic EL panel.

13. The organic EL display device as claimed in claim 12, wherein the organic EL drive circuit is provided as an IC.